

## **REMARKS**

### **A. Background**

Claims 50-60 and 77-79 were pending in the application at the time of the Office Action. Claims 1-49 and 61-76 were canceled in previous papers. Claims 50-60 and 77-79 were rejected as being obvious over cited art. By this response applicant has amended claim 50. As such, claims 50-60 and 77-79 are presented for the Examiner's consideration in light of the following remarks.

### **B. Proposed Amendments**

Applicant has herein amended independent claim 50 to further clarify or more clearly define the claimed invention to expedite receiving a notice of allowance. Support for the amendment to claim 1 may be found, for example, at least at Figure 1 and page 11, lines 11-13 and 17-20 of the specification. In view of the foregoing, Applicant respectfully submits that the amendments to the claims do not introduce new matter and entry thereof is respectfully requested.

### **C. Rejection on the Merits**

#### **1. Objections to the Drawings**

Pages 2-3 of the Office Action object to the drawings. Specifically, the Office Action asserts that the present application contains no drawings even though drawings are called out in the specification. Applicant submits that because the current application is a nationalization of a PCT application, the patent drawings were automatically forwarded to the U.S. Patent and Trademark Office by the International Bureau. Furthermore, Applicant submitted a full copy of the published PCT application with drawings concurrently with the request for nationalization. However, it is unclear if Applicant has submitted an English translation of the drawings. As such, Applicant herein

submits new sheets 1-10 containing Figures 1-10 corresponding to the PCT drawings with all wording changed to read in English. No new matter is believed to be added by the new drawings, and entry thereof is respectfully requested. In light of the foregoing, Applicant submits that the objection to the drawings has been overcome and should be withdrawn.

## 2. Obviousness Rejection

Applicant respectfully notes at the outset that in order to establish a *prima facie* case of obviousness, it is the burden of the Examiner to demonstrate that three criteria are met: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; second, there must be a reasonable expectation of success; and third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP* § 2143.

Pages 3-8 of the Office Action reject claims 50-60 and 77-79 under 35 USC § 103(a) as being obvious over U.S. Patent Application No. 2002/0195619 to Makimoto et al. (“*Makimoto*”). Applicant respectfully traverses this rejection.

Applicant has herein made various clarifying amendments to claim 50. As thus amended, claim 1 requires in part “**an indium-containing p-type nitride semiconductor layer formed on a surface of said p-type base layer, which is exposed by etching said n-type emitter layer, wherein said indium-containing p-type nitride semiconductor layer is regrown on said surface; and a base electrode formed on said indium-containing p-type nitride semiconductor layer.**”

In contrast, the Examiner has not established that *Makimoto* either alone or in combination with any other reference(s), teaches or suggests the aforementioned limitation in combination with the other limitations of claim 50. In fact, the Examiner has conceded that *Makimoto* “fails to teach an indium-containing p-type nitride semiconductor layer regrown on the exposed base surface.” The

Examiner has simply asserted that it would be obvious for one of skill in the art to include such a layer, “so that the electrodes [sic] ejected can pass through the indium containing p-type nitride semiconductor layer and reach the collector.” The examiner cites to paragraph 0029 of *Makimoto* in support. Applicant respectfully disagrees with the Examiner.

The cited paragraph of *Makimoto* simply generally explains why it is desirable in *Makimoto* for electrons injected from the emitter to pass through the base layer and reach the collector. Applicant can find no discussion, let alone support for the assertion that it would be obvious to include an added “indium-containing p-type nitride semiconductor layer regrown on the exposed base surface.” Furthermore, the rationale given by the Examiner is simply a result of and not a reason for adding the additional layer to *Makimoto*. That is, while electrons may *arguendo* pass through the additional layer if it was somehow included in *Makimoto*, the Office Action has failed to establish why this would be desirable in *Makimoto* and why one of skill in the art would be motivated to modify *Makimoto* in the manner set forth in the Office Action.

In addition, while *Makimoto* discloses an electrode 109 on a p-InGaN Base layer 106, *Makimoto* clearly does not disclose “a base electrode formed on said indium-containing p-type nitride semiconductor layer,” the “indium-containing p-type nitride semiconductor layer [being] formed on a surface of said p-type base layer” as recited in amended claim 50. Thus, even if, *arguendo*, *Makimoto* was modified in the manner set forth in the Office Action, the resulting combination would still not include all of the limitations of amended claim 50.

In light of the foregoing, Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claim 50, at least because the Examiner has not established a sufficient suggestion or motivation to make the purportedly obvious modification and because the Examiner has failed to establish that even if modified, *Makimoto* would

include all the limitations of claim 50. Applicant thus respectfully submits that the obviousness rejection of claim 50 should be withdrawn.

Claims 51-60 and 77-79 depend from claim 50 and thus incorporate the limitations thereof. As such, Applicant submits that claims 51-60 and 77-79 are distinguished over the cited reference for at least the same reasons as discussed above with regard to claim 50. Accordingly, Applicant respectfully submits that the rejections of claims 51-60 and 77-79 should also be withdrawn.

No other rejections or objections are set forth in the Office Action.

D. Conclusion

Applicant notes that this response does not discuss every reason why the claims of the present application are distinguished over the cited art. Most notably, applicant submits that many if not all of the dependent claims are independently distinguishable over the cited art. Applicant has merely submitted those arguments which it considers sufficient to clearly distinguish the claims over the cited art.

In view of the foregoing, applicant respectfully requests the Examiner's reconsideration and allowance of claims 50-60 and 77-79 as amended and presented herein.

In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Dated this 23rd day of April 2007.

Respectfully submitted,

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